

ABSTRACT OF THE DISCLOSURE
RATE-OF-CHANGE SWITCHES AND CONTROLLABLE APPARATUS

Rate-of-change switches (63 and 154) each include a mechanical-to-electrical transducer (38A, 38B, or 39) and a rate-of-change control device (22, 110, 120, 130, 132, 140, or 146). The rate-of-change control devices (22, 110, 120, 130, 132, 140, and 146) each include a differentiator (40A, 40B, 112, or 156), and a discriminator (42, 114, 134, 160, or 162). The rate-of-change switches (63 and 154) perform at least one switching function when an output from the differentiator (40A, 40B, 112, or 156) or a second differentiator (158) exceeds an allowable magnitude. The rate-of-change switches (63 and 154) may be used to control a timed-opportunity switch (26 or 172), a conveyance, such as a wheelchair (12), and such functions as extending and retracting leg supports, and/or an environmental control unit (14 or 174). The rate-of-change switches (63 or 154) may be attached to a body member (18, 64, or 67) and be body-member actuated. Alternately, any momentary-contact switch may be used to control the timed-opportunity switch (26 or 172) and the environmental control unit (14 or 174)